

REMARKS

Claim Rejections

Claims 1-11 are rejected under 35 U.S.C. § 112, first paragraph. Claims 1-11 are rejected under 35 U.S.C. § 112, second paragraph. Claims 1-2 and 7-8 are rejected under 35 U.S.C. § 102(b) as being anticipated by Giannotti (U.S. 3,725,271). Claims 3-6 and 9-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Giannotti in view of Jen (U.S. 6,461,513).

Drawings

Applicant has amended Figure 3, as illustrated on the attached formal drawing, accompanied by a Letter to the Official Draftsperson. Figure 3 was amended to add reference numbers 43, 44, 410, 411, and 412, and to correct the cross-hatching for the diffuser (41). No "new matter" has been added to the original disclosure by the proposed amendments to this figure. It is believed the foregoing proposed amendments obviate the outstanding objections to the drawings. Entry of the corrected drawing is respectfully requested.

Amendments to Specification

Applicant has amended the specification as noted above to cure obvious grammatical and idiomatic inaccuracies and to provide antecedent basis for reference numbers 44, 410, 411 and 412. It is believed that the foregoing amendments to the specification overcome the outstanding objections thereto. No "new matter" has been added to the original disclosure by the foregoing amendments to the specification.

New Claims

By this Amendment, Applicant has canceled claims 1, 3, 4, 6, 7, 9 and 10; has amended claims 2, 5, 8 and 11; and has added new claims 12 and 13 to this application. It is believed that the amended and new claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and

define subject matter that is patentably distinguishable over the cited prior art, taken individually or in combination.

New claim 12 is directed toward A filtration device with a cross-flow function comprising: a case (6) having: a case inlet (61); a case outlet (62); and at least one support (43); a filter (3) located in the case; a diffuser (41) located on an interior of the filter and having: a diffuser inlet (413), an end of the diffuser adjacent to the diffuser inlet being located adjacent to each of the at least one support; a diffuser outlet (414); a throat section (411) located on an interior thereof between the diffuser inlet and the diffuser outlet; a tapered section (410) located on an interior thereof between the diffuser inlet and the throat section; and a flared section (412) located between the located on an interior thereof between the throat section and the diffuser outlet; and a passage (44) formed between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet, such that the cross-flow function includes liquid flowing from the diffuser outlet, through the passage, and into the diffuser inlet.

New claim 13 is directed toward a filtration method with cross-flow function, which comprises the steps of: a) providing a case having a case inlet, a case outlet, and at least one support; b) positioning a filter in the case; c) positioning a diffuser on an interior of the filter, the diffuser having a diffuser inlet located on an end of the diffuser adjacent to each of the at least one support, a diffuser outlet, and a throat section, a tapered section, and a flared section located on an interior thereof between the diffuser inlet and the diffuser outlet; d) forming a passage between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet, such that the cross-flow function includes liquid flowing from the diffuser outlet, through the passage, and into the diffuser inlet; e) moving fluid from the diffuser inlet into the tapered section to produce a local low-pressure and entraining fluid flowing outside the diffuser into the tapered section, and then through the throat section; f) moving fluid from the throat section into the flared section gradually decreasing flow velocity and converting kinetic energy into pressure energy to form a local high-pressure region at the diffuser outlet; and g) moving fluid from the diffuser through the passage and entraining fluid back into the tapered section to form the circulating cross-flow.

The primary reference to Giannotti discloses an apparatus for separating particles from a fluid including a housing (67) having a plurality of nested separator elements (62-64) each having nozzles and diffusers, and a filter element (68).

Regarding Claims 12 and 2, Giannotti does not teach a case having at least one support; an end of the diffuser adjacent to the diffuser inlet being located adjacent to each of the at least one support; nor does Giannotti teach a passage formed between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet.

Regarding claims 13 and 8, Giannotti does not teach providing a case having at least one support; positioning a diffuser on an interior of the filter with the diffuser having a diffuser inlet located on an end of the diffuser adjacent to each of the at least one support; nor does Giannotti teach forming a passage between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet.

It is axiomatic in U.S. patent law that, in order for a reference to anticipate a claimed structure, it must clearly disclose each and every feature of the claimed structure. Applicant submits that it is abundantly clear, as discussed above, that Giannotti does not disclose each and every feature of Applicant's new claims and, therefore, could not possibly anticipate these claims under 35 U.S.C. § 102. Absent a specific showing of these features, Giannotti cannot be said to anticipate Applicant's new or amended claims under 35 U.S.C. § 102.

The secondary reference to Jen discloses a secondary-flow enhanced filtration system including a filter housing (30), a first filter cartridge (133), a second filter cartridge (139), and a spiral guide (156) located between the first and second filter cartridges.

Regarding Claims 12 and 2, Jen does not teach a case having at least one support; an diffuser; nor does Jen teach a passage formed between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet.

Regarding claims 13 and 8, Jen does not teach providing a case having at least one support; positioning a diffuser on an interior of the filter with the diffuser having a diffuser inlet located on an end of the diffuser adjacent to each of the at

least one support; nor does Jen teach forming a passage between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet.

Even if the teachings of Giannotti and Jen were combined, as suggested by the Examiner, the resultant combination does not suggest:

- 1) regarding Claims 12 and 2, a case having at least one support; an end of the diffuser adjacent to the diffuser inlet being located adjacent to each of the at least one support; nor does the combination suggest a passage formed between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet; nor does the combination suggest
- 2) regarding claims 13 and 8, providing a case having at least one support; positioning a diffuser on an interior of the filter with the diffuser having a diffuser inlet located on an end of the diffuser adjacent to each of the at least one support; nor does the combination suggest forming a passage between an exterior of the diffuser and an interior of the filter communicating with the diffuser outlet and the diffuser inlet.

It is a basic principle of U.S. patent law that it is improper to arbitrarily pick and choose prior art patents and combine selected portions of the selected patents on the basis of Applicant's disclosure to create a hypothetical combination which allegedly renders a claim obvious, unless there is some direction in the selected prior art patents to combine the selected teachings in a manner so as to negate the patentability of the claimed subject matter. This principle was enunciated over 40 years ago by the Court of Customs and Patent Appeals in In re Rothermel and Waddell, 125 USPQ 328 (CCPA 1960) wherein the court stated, at page 331:

The examiner and the board in rejecting the appealed claims did so by what appears to us to be a piecemeal reconstruction of the prior art patents in the light of appellants' disclosure. ... It is easy now to attribute to this prior art the knowledge which was first made available by appellants and then to assume that

it would have been obvious to one having the ordinary skill in the art to make these suggested reconstructions. While such a reconstruction of the art may be an alluring way to rationalize a rejection of the claims, it is not the type of rejection which the statute authorizes.

The same conclusion was later reached by the Court of Appeals for the Federal Circuit in Orthopedic Equipment Company Inc. v. United States, 217 USPQ 193 (Fed.Cir. 1983). In that decision, the court stated, at page 199:

As has been previously explained, the available art shows each of the elements of the claims in suit. Armed with this information, would it then be non-obvious to this person of ordinary skill in the art to coordinate these elements in the same manner as the claims in suit? The difficulty which attaches to all honest attempts to answer this question can be attributed to the strong temptation to rely on hindsight while undertaking this evaluation. It is wrong to use the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit. Monday morning quarterbacking is quite improper when resolving the question of non-obviousness in a court of law.

In In re Geiger, 2 USPQ2d, 1276 (Fed.Cir. 1987) the court stated, at page 1278:

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination.

Applicant submits that there is not the slightest suggestion in either Giannotti or Jen that their respective teachings may be combined as suggested by the Examiner. Case law is clear that, absent any such teaching or suggestion in the prior art, such a combination cannot be made under 35 U.S.C. § 103.

Neither Giannotti nor Jen disclose, or suggest a modification of their specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed structure. Applicant hereby respectfully submits that no combination of the cited prior art renders obvious Applicant's new or amended claims.

Summary

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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Application No. 10/612,166

IN THE DRAWINGS:

Enclosed is a new formal drawing of Fig. 3, accompanied by a Letter to the Official Draftsperson. In Fig. 3, reference numbers 43, 44, 410, 411 and 412 have been added, and the cross-hatching for the diffuser has been corrected.